This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-10. (Canceled)

11. (Currently Amended) A method for caching a content element, ~~the method~~ comprising ~~the steps of~~:

~~receiving a content element retrieval request corresponding to the content element;~~

~~sending a retrieval response, in response to the content element retrieval request, the retrieval response indicating whether the content element resides in a component cache;~~

receiving a content element insertion request; ~~corresponding to the content element;~~

~~sending an insertion response, in response to the content element insertion request, the insertion response indicating whether the content element was successfully inserted into the component cache;~~

~~determining whether the content element should reside in the component cache;~~

~~removing the content element from the component cache, in response to a determination that the content element should not reside in the component cache; and~~

computing a navigation probability data field for a cacheline in which said content element is to be stored, where said computing accounts for whether said cacheline has zero, one, or multiple predecessors;

associating the content element with a content element node and storing the content element and the content element node in ~~the~~ a component cache, ~~in response to a determination that the content element should reside in the component cache,~~ said content element node comprising said navigation probability data field. ~~a next node data component comprising node identifiers (NodeIDs) for all nodes that are reachable in a single step from a current node.~~

12. (Currently Amended) The method of Claim 11, wherein the content element node further comprises a node identifier (NodeID) data field, timestamp data field, a content component, and a next node data component comprising node identifiers for all nodes that are reachable

in a single step from a current node. ~~and a navigation probability (NavProb) data field comprising a conditional probability that a user will request a current content element~~.

13. (Currently Amended) The method of Claim 11, ~~wherein the determination~~ further comprising determining that the content element should not reside in the component cache ~~is made by a content replacement manager~~.

14. (Currently Amended) The method of Claim 13, wherein ~~the content replacement manager determines~~ said determining whether the content element should reside in the component cache ~~by~~ comprises determining whether a second content element should replace the content element.

15. (Currently Amended) The method of Claim 13, wherein ~~the content replacement manager determines~~ said determining whether the content element should reside in the component cache ~~by~~ comprises determining how recently the content element has been referenced.

16. (Currently Amended) The method of Claim 13, wherein ~~the content replacement manager determines~~ said determining whether the content element should reside in the component cache ~~by~~ comprises determining the likelihood that the content element will be needed.

17. (Currently Amended) The method of Claim 16, ~~wherein the content replacement manager determines~~ further comprising determining that the content element should not reside in the component cache, in response to a determination that the content element is unlikely to be needed.

18. (Currently Amended) The method of Claim 16, ~~wherein the content replacement manager determines~~ further comprising determining that the content element should reside in the component cache; in response to a determination that the content element is likely to be needed.

19-31. (Canceled)

32. (New) A system for caching a content element, comprising:

a component configured to receive a content element insertion request;

a component configured to compute a navigation probability data field for a cacheline in which said content element is to be stored, where said computing accounts for whether said cacheline has zero, one, or multiple predecessors;

a component configured to compute associate the content element with a content element node and storing the content element and the content element node in a component cache, said content element node comprising said navigation probability data field.

33. (New) The system of Claim 32, wherein the content element node further comprises a node identifier (NodeID) data field, timestamp data field, a content component, and a next node data component comprising node identifiers for all nodes that are reachable in a single step from a current node.

34. (New) The system of Claim 32, further comprising a component configured to determine that the content element should not reside in the component cache.

35. (New) The system of Claim 34, wherein said component configured to determine whether the content element should reside in the component cache also determines whether a second content element should replace the content element.

36. (New) The system of Claim 34, wherein said component configured to determine whether the content element should reside in the component cache also determines how recently the content element has been referenced.

37. (New) The system of Claim 34, wherein said component configured to determine whether the content element should reside in the component cache also determines the likelihood that the content element will be needed.

38. (New) The system of Claim 37, further comprising a component configured to determine that the content element should not reside in the component cache, in response to a determination that the content element is unlikely to be needed.

39. (New) The system of Claim 37, further comprising a component configured to determine that the content element should reside in the component cache; in response to a determination that the content element is likely to be needed.

40. (New) A computer readable medium having stored thereon computer executable instructions for caching a content element, said computer executable instructions comprising instructions for:

receiving a content element insertion request;

computing a navigation probability data field for a cacheline in which said content element is to be stored, where said computing accounts for whether said cacheline has zero, one, or multiple predecessors;

associating the content element with a content element node and storing the content element and the content element node in a component cache, said content element node comprising said navigation probability data field.

41. (New) The computer readable medium of Claim 40, wherein the content element node further comprises a node identifier (NodeID) data field, timestamp data field, a content component, and a next node data component comprising node identifiers for all nodes that are reachable in a single step from a current node.

42. (New) The computer readable medium of Claim 40, further comprising instructions for determining that the content element should not reside in the component cache.

43. (New) The computer readable medium of Claim 42, wherein said instructions for determining whether the content element should reside in the component cache comprise instructions for determining whether a second content element should replace the content element.

44. (New) The computer readable medium of Claim 42, wherein said instructions for determining whether the content element should reside in the component cache comprise instructions for determining how recently the content element has been referenced.

45. (New) The computer readable medium of Claim 42, wherein said instructions for determining whether the content element should reside in the component cache comprise instructions for determining the likelihood that the content element will be needed.

46. (New) The computer readable medium of Claim 45, further comprising instructions for determining that the content element should not reside in the component cache, in response to a determination that the content element is unlikely to be needed.

47. (New) The computer readable medium of Claim 45, further comprising instructions for determining that the content element should reside in the component cache; in response to a determination that the content element is likely to be needed.